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**Louisiana Department of Environmental Quality (LDEQ)**  
**Office of Environmental Services**

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**STATEMENT OF BASIS**

**VINYL CHLORIDE MONOMER PLANT  
FORMOSA PLASTICS CORPORATION, LOUISIANA  
Baton Rouge, East Baton Rouge Parish, Louisiana  
Agency Interest Number: 288  
Activity Number: PER20050010  
Draft Permit 0840-00002-V0**

**I. APPLICANT:**

**Company:**

Formosa Plastics Corporation, Louisiana  
P. O. Box 271  
Baton Rouge, Louisiana 70821-0271

**Facility:**

Vinyl Chloride Monomer Plant  
On Gulf States Road in East Baton Rouge Parish, Louisiana  
Approximate UTM coordinates are 673.103 kilometers East and 3375.578 kilometers North, Zone 15

**II. FACILITY AND CURRENT PERMIT STATUS:**

Formosa Plastics Corporation, Louisiana (FPC) operates the Baton Rouge Facility located on Gulf States Road in East Baton Rouge Parish, Louisiana. The Baton Rouge Facility includes five operating units: Polyvinyl Chloride (PVC), Utilities, Caustic Chlorine (CCN), Vinyl Chloride Monomer 1 (VCM 1), and Vinyl Chloride Monomer 2 (VCM 2). FPC is permanently shutting down the CCN Unit and its VCM 1 Unit, and, therefore, these existing units will not be permitted. This application includes the re-designation of the VCM 2 Unit as the VCM Unit.

The FPC Vinyl Chloride Monomer Plant currently operates under State Air Permit No. 0840-00002-10, for the CCN, VCM 1, and VCM 2 Units and the Utilities Unit issued March 7, 1997 and Small Source State Permit 2917 for ID 01-04 – Cooling Tower, issued on February 2, 2005. This Title V Permit (Permit No. 0840-00002-V0) will consolidate both state permits. One (1) Part 70 Permit 1004-V0 for the PVC Unit issued on October 24, 2001, addressing portions of the facility, will remain in effect.

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**III. PROPOSED PERMIT / PROJECT INFORMATION:**

**Proposed Permit**

FPC, Louisiana began submitting updates to the initial facility-wide application (dated September 25, 1996) in August 2000 in an effort to obtain individual Title V permits for each operating unit. FPC submitted a permit application and Emission Inventory Questionnaire dated August 31, 2005 requesting an initial Part 70 operating permit. Additional information incorporating updates to the application submitted for the Vinyl Chloride Monomer Plant dated October 12, 2005, January 30, 2006, and February 27, 2006 was also received.

A notice requesting public comment on the permit was published in the *Advocate*, Baton Rouge, Louisiana, on XXX XX, 2006. The public notice was sent to persons included in the Office of Environmental Services Public Notice Mailing List on XXX XX, 2006. The draft permit was also submitted to US EPA Region VI on XXX XX, 2006. All comments will be considered prior to the final permit decision.

**Project description**

The FPC, Louisiana Baton Rouge Facility consists of several units that generate power, steam, vinyl chloride monomer (VCM), and PVC. The VCM Unit produces VCM from 1,2-dichloroethane (EDC) and chlorine. EDC is fed to furnaces where it is converted to VCM and hydrochloric acid (HCl).

A series of columns, heat exchangers, and vessels, interconnected by piping and ancillary transfer equipment, are used to purify the VCM to required specifications for use as a produced feedstock. Several by-products, such as HCl and unreacted EDC, are recycled for reuse in the process. Product VCM is stored for subsequent transfer to the PVC Unit or may otherwise be shipped via rail cars.

Feedstocks and finished products are stored in fixed roof tanks and spheres. Raw materials may be received via barge, truck, and rail. Rail cars and tank trucks are used to deliver finished products to customers from the facility. Fugitive emissions from piping components and transfer equipment in the VCM Unit, as well as facility-wide wastewater emissions, are included as part of this process.

The VCM Unit also maintains necessary utilities equipment to aid in process operations, such as cooling towers and control and recovery devices. Incinerators at the FPC Baton Rouge Facility receive vent streams from reactors, columns, tanks, and vents from decontamination of equipment in the VCM Unit and other parts of the facility.

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Estimated emissions in tons per year are as follows:

<u>Pollutant</u>	<u>Proposed</u>
PM <sub>10</sub>	46.66
SO <sub>2</sub>	1.07
NO <sub>x</sub>	127.29
CO	97.19
VOC	98.55

**Prevention of Significant Deterioration (PSD) Applicability and Non-attainment New Source Review (NNSR)**

This application was reviewed for compliance with the Louisiana Preconstruction and Part 70 operating permit program. It was also reviewed for compliance with Louisiana Air Quality Regulations, NSPS, and NESHAP. Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) are not required.

**MACT requirements**

The FPC VCM Unit is subject to the maximum achievable control technology (MACT) standards of the Hazardous Organic NESHAP (HON), 40 CFR 63 Subparts F, G, and H. The HON requirements that are applicable to each source in the VCM Unit are detailed in the regulatory applicability tables.

**Air Modeling Analysis**

Louisiana Toxic Air Pollutant (LTAP) dispersion modeling is performed for the applicable LTAP compounds with emissions above the Minimum Emission Rate. The screening modeling results predict the maximum ground level concentrations of toxic air pollutants are below the Ambient Air Standards (AAS).

Impact on air quality from the emissions of the proposed unit will be below the National Ambient Air Quality Standards (NAAQS) and the Louisiana Ambient Air Standards (AAS) beyond industrial property.

**General Condition XVII Activities**

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of

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-- approved-General Condition-XVII- Activities, refer to-Section-VIII-of the draft Part 70 permit.

**Insignificant Activities**

The insignificant activities associated with this permit are in the Emission Point List Table.

**IV. Regulatory Analysis**

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms conditions and standards are provided in the Facility Specific Requirements Section of the proposed permit.

**Wetlands**

This permit does not include any impacted wetlands.

**V. Permit Shields**

Not applicable.

**VI. Periodic Monitoring**

All periodic monitoring is conducted in accordance with state and federal regulations. See Table 3 of the draft Part 70 permit modification for monitoring requirements.

**VII. Applicability and Exemptions of Selected Subject Items**

See Permit.

**VIII. Streamlined Requirements**

Unit or Plant Site	Programs Being Streamlined	Stream Applicability	Overall Most Stringent Program
Vinyl Chloride Monomer Plant	40 CFR Subpart H	5% VOHAP	40 CFR 63 Subpart H
	NESHAP Subpart V	10% VHAP	
	NSPS Subpart VV	10% VOC	
	LAC 33:III.2122	10% VOC	

## IX. Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

Carbon Monoxide (CO) - A colorless, odorless gas which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Hydrogen Sulfide (H<sub>2</sub>S) - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO<sub>x</sub>) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH<sub>4</sub>), Ethane (C<sub>2</sub>H<sub>6</sub>), Carbon Disulfide (CS<sub>2</sub>)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III-507. Major sources include, but are not limited to, sources which have the potential to emit:  $\geq 10$  tons per year of any toxic air pollutant;  $\geq 25$  tons of total toxic air pollutants; and  $\geq 100$  tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year of NO<sub>x</sub> or VOC for sources in non-attainment parishes).

PM<sub>10</sub>- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) - A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO<sub>2</sub>) - An oxide of sulfur.

Title V permit - See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.